

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003P07137WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/006772	International filing date (day/month/year) 23.06.2004	Priority date (day/month/year) 25.06.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 9 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
 - ☐ international search (Rule 12.3 and 23.1(b))
 - ☐ publication of the international application (Rule 12.4)
 - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 - ☐ the international application as originally filed/furnished
 - ☒ the description:
 - pages 1-8 _____ as originally filed/furnished
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☒ the claims:
 - nos. 1-10 _____ as originally filed/furnished
 - nos.* _____ as amended (together with any statement) under Article 19
 - nos.* _____ received by this Authority on _____
 - nos.* _____ received by this Authority on _____
 - ☒ the drawings:
 - sheets 1/7-7/7 _____ as originally filed/furnished
 - sheets* _____ received by this Authority on _____
 - sheets* _____ received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-10</u>	YES
	Claims	<u></u>	NO
Inventive step (IS)	Claims	<u>1-10</u>	YES
	Claims	<u></u>	NO
Industrial applicability (IA)	Claims	<u>1-10</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

D1: US-A-5 934 666

D2: US 2002/153654 A1

D1 is considered to be the prior art closest to the subject matter of claim 1. D1 (see, in particular, column 12, line 22 to column 15, line 55; figures 1, 6 to 8):

a device for separating flat items 36 that are transported in the form of a stack 140 in an upstanding on-edge orientation on controllably driven conveyor means 30 having a stack support 72 to the removal point, where the front-most item 36 is removed horizontally in a direction perpendicular to the direction of feed, said device having sensors 350, 352 projecting from the removal reference plane 322 at different levels for determining the position of the front-most item 36 at particular contact pressures, said sensors being connected to the drive control 402, 56 of the conveyor means 30, and the conveyor means 30 and the stack support 72 being controlled separately.

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

Thus the subject matter of claim 1 is distinguished from the known device in that support elements having actuators and the sensors for determining the position of the front-most item, said sensors also being suitable for measuring the stack pressure, can be driven in a controlled manner individually and horizontally in a direction perpendicular to the removal reference plane; and in that, based on the determined position of the front-most item, the drives of the actuators, the conveyor means and the stack support can be controlled in such a way that, when the stack is transported to the removal point, the front-most item, supported by the support elements, is moved to the removal point in a substantially parallel orientation relative to the removal reference plane with low pressure, which is measured by the sensors and at which the item neither tilts nor becomes deformed.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The problem to be solved by the present invention can therefore be regarded as that of providing a device for separating flat items in an upstanding on-edge orientation, with which device also larger, flexible, and thus unstable items or items of varying thickness can be separated while in an upstanding on-edge orientation with low stack pressure, without these items tilting or becoming deformed.

The solution to this problem as proposed in claim 1 of the present application involves an inventive step for

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

the following reasons (PCT Article 33(3)):

Nothing can be found in D1 that suggests support elements which have actuators and sensors and which can be driven individually and horizontally. Actuators and sensors are separate elements according to D1. According to the invention, the sensors having the actuators prevent the items from deforming and/or tilting.

Furthermore, D1 does not suggest that the sensors measure the pressure. D1 therefore does not anticipate controlled actuation of the support elements as a function of the measured pressure or the determined position of the front-most item.

According to D2, the stack support and the conveyor means are controlled as a function of the signals of two pressure sensors projecting from the removal plane, said sensors detecting the orientation of the stack. In this process, the instantaneous pressure is also regulated by means of the sensors. However, D2 does not suggest controlling the sensors as actuators in such a way that, when the stack is transported to the removal point, the front-most item of the stack is oriented in a particular way and moved to the removal point as a function of the measured pressure.

Claims 2 to 10 are dependent on claim 1 and therefore also meet the PCT requirements for novelty and inventive step.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
EP-A-1 367 015	03.12.2003	21.05.2003	28.05.2002

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure

Date of non-written disclosure
(day/month/year)Date of written disclosure
referring to non-written disclosure
(day/month/year)

See supplemental sheet.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite D1 or indicate the relevant prior art disclosed therein.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The characterizing part of claim 1 states that support elements having actuators and the sensors "are suitable for measuring the stack pressure" (PCT Article 6). According to an essential feature of the invention (see description, page 2, claim 1, lines 27-28), however, the sensors are not only suitable for measuring the stack pressure, but are also provided for measuring the stack pressure.

For clarification purposes, the characterizing part of claim 1 should state that the sensors are also provided for measuring the stack pressure.

2. It is unclear in claim 1 what pressure is meant in the statement "pressure measured by the sensors" (PCT Article 6). It should be clarified that this statement refers to the stack pressure measured by the sensors.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box VI

Although EP-A-1 367 015 is not prior art under PCT Rule 64.1, this document appears to disclose all the features of claims 1, 2, 5 and 7.

The validity of the priority of this document has not been checked.